UK
Bolney Place
Cowfold Road, Bolney
West Sussex RH17 5QT
Tel: 01444 810399
info@visionsineducation.co.uk
visionsineducation.co.uk

Tour: Boston STEM

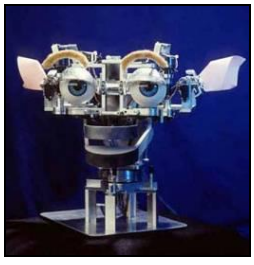
Destination: BOSTON, MASSACHUSETTS, USA

Specialisation: Technology, General Science, Robotics, Design Research, Genome / DNA Sequencing

Availability: April through to November; Sunday arrivals only

Boston STEM - Sample Itinerary

	Morning	Afternoon	Evening
1	Fly to Boston; Check into Hotel; Welcome & Safety Meeting		Dinner
2	iRobot Tour	MIT Museum Tour & Master Class	Boston Museum of Science Master Class Series & Dinner
3	Omnimax Presentation	Design Camp Master Class	Dinner & free time
4	DEKA Research & Development Corporation Tour		Dinner & Quiz Night
5	UofM Lowell Robotics Lab	DNAtrium Master Class	Dinner & Mini-Golf
6	American Science & Engineering Company Tour		Depart Boston






Specialists in STEM Student Travel

As with all sample itineraries, please be advised that this is an 'example' of a schedule and that the activities and hotels shown may be variable dependent upon dates, weather, special requests and other factors. Itineraries will be confirmed prior to travel.

Visions Holiday Group Limited Registered No. 4499296.
Registered office as above. VAT No. 784 3347 05

Day 1
Dinner Voucher

Boston.... An American city like no other, Boston is a true original! Full of passion and pride regarding both their city and their sports teams, Bostonians revel at the chance to tell you how great their town is. The thing is, after you're there for a while, you'll tend to start agreeing with them! But this town has more to offer the visitor than world champion sports teams and the site of the world's best-known tea party. With over 16 million visitors per year, Boston ranks as one of the most visited cities in the United States.



As the capital and largest city of the Commonwealth of Massachusetts, Boston embodies a distinct European feel which is evident in the city's culture. The city's role in the American Revolution has led to the nickname, the 'Cradle of Liberty.' Once considered ultra-conservative, Boston has developed a progressive culture and attitude and has become one of the most exciting places in New England with excellent culinary hotspots and an abundance of attractions and sights. Historical buildings, parks and cemeteries are national landmarks, and the city boasts the birthplaces of many famous patriots, presidents and politicians. The city's architectural treasures include lovely brownstones and cobblestone streets, and gas-lamps light the way in many neighborhoods.

Hip & Historical - Cool & Hot… Boston is a wonderful blend of stylish sophistication and historic New England charm. You can easily uncover the city's past while enjoying its distinctively modern edge. Boston's year-round calendar is brimming with exceptional musical and theatrical productions, new exhibitions and timeless favourites, walking tours and trolley tours, and festivals of all types. Boston shops and galleries are inviting any time of year whether you're a serious shopper, a bona-fide bargain hunter or a whimsical window shopper.

Known for its strong cultural identity, plethora of museums, historical sites and wealth of live performances, Boston is a city that is an eclectic mix of traditional and modern. Travellers to Boston can find history and culture around every bend - skyscrapers nestled next to historic hotels and modern marketplaces lining cobblestone streets. Up for a little globetrotting? Attend one of many ethnic festivals, take a culinary tour of Boston's Little Italy or Jewish Brookline or enter the vividly coloured Mapparium, a stunning 30-foot stained-glass globe.

Also referred to as the 'Walking City', Boston is remarkably compact, all centred on the country's oldest public park, Boston Common. When it comes to nightlife, the modern-day Boston is home to several cafes, restaurants and historic pubs. Foodies can try local favourites, such as baked beans, cod and clam chowder.

From amazing restaurants, to buzzing marketplaces and historical quaint, brownstone lined streets to big city entertainment, Boston lives up to its reputation as one of the most popular tourist destinations in the USA. www.bostonusa.com



Did you know?

- ✓ Boston was the site of America's first metro system.
- ✓ Located near the financial district, Boston Common is the oldest public park in the United States.
- ✓ Boston is known as 'the Athens of America,' a reference to the city's more than 100 colleges and universities. The city of Boston has the unique distinction of being home to both the first public school and the first college in America.
- ✓ Why is Boston called Beantown? Here's the story: When the Puritans arrived in Boston from England they were forbidden to cook on the Sabbath. Church services often lasted 8-hours and were mandatory for all members of the community. When the congregants returned home they were often cold and hungry, so the solution was to put a pot of beans on the hearth on Saturday, with a piece of meat - usually salt pork, and a sauce of water and molasses to keep the beans from burning. This was the one hot meal that children could serve themselves while the adults remained at the services. Children were required to be at services from 9AM - 2PM and adults remained until 4 or 5 in the afternoon. Those that failed to attend church services were put in cages on Boston Common where they did penance equivalent to the time they missed in church. Family members could bring other family members a hot meal and because it was easy to transport, it was often the pot of Boston baked beans. After being on the hearth for more than a day, the molasses became thick and fortified the congregants on the cold days.
- ✓ St. Patrick's Day was first celebrated in North America in 1737, in Boston. In modern times, Boston expects 600,000 revellers on the celebratory day.
- ✓ Boston is reported to have more Irish descendants than the country of Ireland.
- ✓ Ever wonder how Fig Newtons got their name? They were named after Newton, Massachusetts, a suburb of Boston.

- ✓ Between 1630 and 1890, the city of Boston tripled in size due to the levelling of hills and using the extra earth to fill in the marshes and other previously unusable land along the waterfront.

- ✓ Boston's best-known dishes are clam chowder, fish and chips, baked beans, lobster, steamed clams and fried clams.

Groups participating in Visions 'Boston STEM' will generally arrive in Boston in the afternoon. Upon arrival, your coach will be awaiting your school to transport you swiftly to your hotel. After check-in, we'll have our Visions Welcome & Safety Meeting, and then get started on our action-packed itinerary straight away. Get ready to experience Boston!

Following hotel check-in and our Welcome & Safety Meeting, we're off to discover Quincy Hall and Faneuil Marketplace!

Quincy Hall and Faneuil Marketplace - The seat of American history and the site of one of America's most famous shopping and dining experiences, Faneuil Hall Marketplace. For over 250 years, the marketplace has played an integral role in the life of Boston's residents so when you are ready to see, taste, and touch a true Boston experience you'll adore the historic and exciting Faneuil Hall Marketplace! www.faneuilhallmarketplace.com



Sprawling on 6.5 acres, Faneuil Hall Marketplace attracts more than 18 million visitors annually. Located in the heart of downtown Boston and directly across the street from Boston's waterfront, it combines the glories of the past and the vitality of the present with over 49 shops, 44 pushcarts, 18 full service restaurants, 35 food stalls and Boston's most popular comedy nightclub. The Marketplace is comprised of three restored 19th century buildings. A blend of Neoclassic and Greek revival architecture, the complex is a beautiful representation of old Boston, tastefully enhanced by urban contemporary additions. Ethnic foods, unique gifts and street performers are just a few elements that make the cobblestone streets such a festive and special place. During the warm weather, the outdoor cafes are a perfect spot to relax and have a meal or appetiser and drink.

Each Visions participant will receive a **VIP Welcome Pass** to use for discounts at the various marketplace stores plus a meal voucher to dine at one of 19 fabulous restaurants to meet your personal taste and preference. Following dinner, guests will use their dessert voucher to cap off the night!

Day 2
Breakfast & Dinner

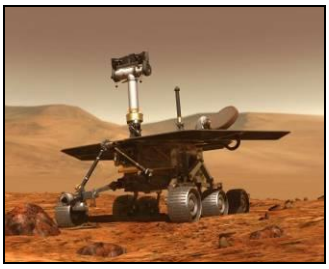
Rise and shine Boston! Today is the day to delve into technology! After breakfast at our hotel, we'll check-out and head to the iRobot Corporation facility!

iRobot Corporation – Makers of Roomba Vacuums, iRobots designs and builds robots that make a difference! iRobot was founded in 1990 when Massachusetts Institute of Technology roboticists Colin Angle and Helen Greiner teamed up with their professor, Dr. Rodney Brooks, with the vision of making practical robots a reality. As a pioneer in the robot industry, iRobot's goal is to drive innovation, serve as an industry catalyst and change the world by fuelling the era of robots. To support and encourage the

development of robot technology, iRobot offers comprehensive resources for developers, providing information and products that facilitate the creation and easy integration of new payloads, behaviours and capabilities on iRobot platforms. iRobot collaborates with external developers from government agencies, academic institutions and small and large businesses to create and bring to market innovations that help military and public safety professionals tackle dangerous missions with less risk.
http://www.irobot.com

'Our vision at iRobot is of the autonomous home enabled by robots – a house that takes care of itself and the people in it. The goal is for robots to help improve our quality of life on a day-to-day basis.'
— Helen Greiner, iRobot Co-Founder

iRobot's Research Group performs cutting-edge research to meet the advanced needs of sponsors with integrated robotic solutions. The Research Group pursues research and development opportunities with leading academic research institutions, businesses and other technology innovators, leveraging experience as a systems integrator and putting together 'best-in-class teams' of partners from a wide range of technology areas. With two decades of leadership in the robot industry, iRobot remains committed to providing platforms for invention and discovery, developing key partnerships to foster technological exploration and building robots that improve the quality of life and safety standards worldwide.



Mars Exploration Rover
Photo courtesy NASA/JPL-Caltech

This Master Class session will include a visit to the iRobot Museum and a robot demo, availability permitting. **NOTE**: Before entering the facility, each visitor will be required to sign a confidentiality agreement and will not be allowed to bring any mobile phones, cameras or recording devices into the facility.

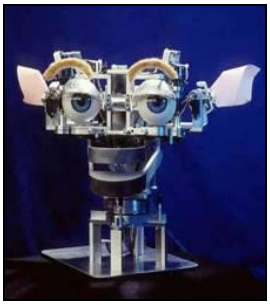
After our morning focusing on robotics, we'll stop for lunch and then it's on to the Massachusetts Institute of Technology!

MIT: Massachusetts Institute of Technology – The Massachusetts Institute of Technology is a private research university located in Cambridge, Massachusetts. MIT has five schools and one college, containing a total of 32 academic departments, with a strong emphasis on scientific and technological research. MIT is one of two private land-grant universities and is also a sea-grant and space-grant university. Founded in 1861 in response to the increasing industrialisation, the university emphasised laboratory instruction from an early date. MIT researchers were involved in efforts to develop computers, radar and inertial guidance in connection with defence research during WWII and the Cold War. In the past 60 years, MIT's educational disciplines have expanded beyond the physical sciences and engineering into fields including biology, cognitive science, economics, philosophy, linguistics, political science and management. http://web.mit.edu



Our afternoon will consist of a visit to the MIT Museum where we will participate in a hands-on Master Class designed to inspire interest in science, technology and engineering. Master Classes are 1.5 – 2-hours in length with a maximum capacity of 25-students per class. Party Leaders will choose their Master Class prior to travel.

Options include:



Robotics – Programming Mindstorms **-** Explore what makes a robot tick in this introduction to programming robots. Students use the Lego Mindstorms NXT and NXT-G Programming Environment to get robots sensing, thinking, and moving about. This workshop includes a guided tour of the ***Robots and Beyond*** gallery and illustrates the development of robotics with examples from MIT research. Content available for ages 12 through 18.

Structural Engineering – Why Towers Stand Up and Bridges Don't Fall Down **-** Find out just how strong a piece of paper can be, bridge distances you'd never think possible, and see the simple geometry at the root of the longest bridges in the world in this active workshop on structural engineering. Students learn how structures stand up and work in teams to design and build bridges using recycled materials. Examples from architecture and engineering developed at MIT deepen students' appreciation of the structures all around us. Content available for ages 12 to 18.



DNA Learning Lab: DNA and Proteins **-** Within human bodies lies a complex system as elegant and efficient as any factory-protein synthesis from instructions encoded in DNA. Students use the MIT Museum's dedicated space, ***Learning Lab: The Cell,*** for a lesson about two vital biomolecules: DNA and proteins. Students will explore this fundamental basis of life with LEGO DNA kits, digital models, and guided discussion. 25 students maximum. Content available for ages 12 to 18.

DNA Learning Lab: Protein Synthesis **-** Students with a background in molecular biology use the MIT Museum's dedicated space, ***Learning Lab: The Cell,*** to explore transcription, translation, and protein folding. This workshop, for advanced Biology students, uses LEGO kits, digital and physical models, and guided discussion to explore key concepts in molecular biology. 25 students maximum. Content available for ages 14 to 18.

Lab Link **-** Using video-conferencing technology, *Lab Link* programs facilitate direct engagement between scientists in their research laboratories and students at the MIT Museum. Work with the Museum's education staff to customise a link for your students – for example, conference with the Whitehead Institute's molecular biologists at their lab benches or brain scientists working with human subjects in the McGovern Institute's fMRI brain scanning facility. *Lab Links* are subject to the availability of research scientists and must be scheduled at least one month in advance. Content available for ages 12 through 18.

After our Master Class there will be ample time to explore the MIT Museum.

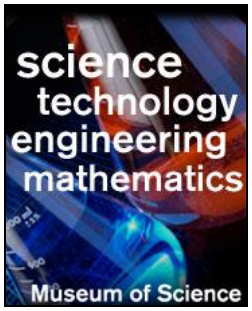


The MIT Museum - The Museum presents an exciting array of exhibitions and displays, providing a window into MIT's fascinating world of science and technology. The mission of the Museum is to share the creative energy of MIT, and to stimulate an understanding and appreciation of the meanings of scientific and technological innovation in the modern world. The Museum's galleries present on-going and changing exhibitions on science and technology and current research; architecture and design; and oceanography, underwater robotics and ship design. You'll find high-tech

artefacts, prototypes, intriguing scientific instruments, historic photographs, amazing holograms, a scientific aquarium, and even ingenious kinetic sculptures.

Preview your visit to the MIT Museum in Cambridge, MA on Tech TV. This short video lets you in on some of the highlights of the Museum's exhibitions and programs.
http://techtv.mit.edu/videos/5621-span-classhighlightmitspan-museum-ideas-in-the-making-2010

Next stop – dinner! Then, it's on to the Boston Museum of Science for a fantastic Master Class series.



Boston's Museum of Science - Long respected as a leader in science education, the Museum of Science promotes thoughtful participation in today's increasingly technological society. With over 700 permanent exhibits, and an ever-changing cavalcade of touring exhibits, films, and shows, Visions groups can encounter the fresh and unfamiliar, ask questions, and actively address the provocative issues raised by innovations in science and technology.

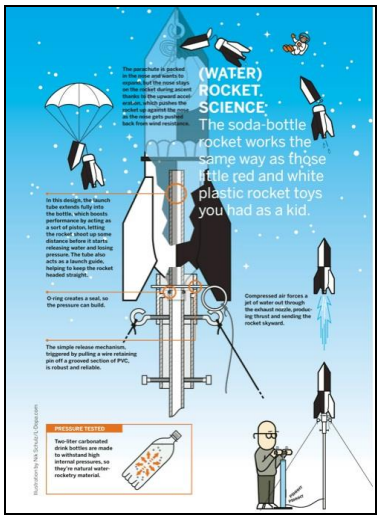
Upon arrival, groups will have a Welcome Briefing. Afterwards, we'll explore the museum and have a full safety tour. Once the Museum has settled down for the night we'll start our **Master Class** series, enjoy some snacks and view a lightning presentation!

Day 3
Breakfast & Dinner

Good morning Boston! We'll wake up early today to head back to the Museum of Science and start our morning off with a few final objectives. After a light breakfast, we'll wrap up with our morning presentations - get ready to enjoy a Planetarium Show, free time to explore the Museum and finish up with an Omni film.

Afterwards, we'll head out for an afternoon of Design Camp!

Design Camp – This afternoon we'll join forces with University students to have a fabulous and fun afternoon of Design Camp. The camp is approximately 3 to 5-hours in length and is coordinated by the senior University students of several nearby schools to design and build a few different projects with an emphasis on physics, technology and engineering. Visiting schools are split into teams where they must work together to complete the project(s). Project examples include:



- ✓ Soda Bottle Rocket Building
- ✓ Coke Can Cannons
- ✓ Compressed Air Potato Guns
- ✓ Submarine Building
- ✓ Boat Building

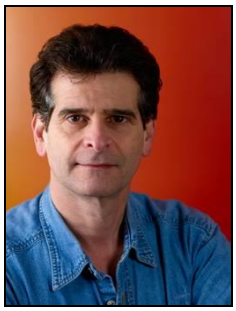
Day 4
Breakfast & Dinner

Rise and shine Boston! After breakfast at our hotel, we'll head north to DEKA - the company that invented the 'ibot' climbing wheelchair, the Segway, the Deka Arm named Luke (like the Luke Skywalker arm in Star Wars) - for a tour of this unique facility!

DEKA Research and Development Corporation - is a company based in New Hampshire, founded in 1982 by Dean Kamen and consisting of nearly 200 engineers, technicians, and support staff. DEKA's mission is 'to foster innovation.' Dean Kamen was awarded the National Medal of Technology in 2000 for inventions that have advanced medical care worldwide. In 2003, his 'Project Slingshot,' a portable water purification system, was named a runner-up for 'Coolest Invention of 2003' by Time Magazine. www.dekaresearch.com

The Deka way of solving problems: 'Find a problem. Research it. Throw ideas at it. Invent. Get feedback. Build something. Break it quickly. Make it better. Decide on the product. Plan, organise, and bring it to life. Build some, test them hard and thoroughly. Push to production. Support as required. Find a new problem.'

Dean Kamen is an inventor, an entrepreneur and a tireless advocate for science and technology. His roles as inventor and advocate are intertwined -- his own passion for technology and its practical uses has driven his personal determination to spread the word about technology's virtues and by so doing, to change the culture of the United States.



As an inventor, he holds more than 440 U.S. and foreign patents, many of them for innovative medical devices that have expanded the frontiers of health care worldwide. While still a college undergraduate, he invented the first wearable infusion pump, which rapidly gained acceptance from such diverse medical specialties as chemotherapy, neonatology and endocrinology. In 1976 he founded his first medical device company, AutoSyringe, Inc., to manufacture and market the pumps. At age 30, he sold that company to Baxter International Corporation. By then, he had added several other infusion devices, including the first insulin pump for diabetics. Following the sale of AutoSyringe, Inc., he founded DEKA Research & Development Corporation to develop internally generated inventions as well as to provide research and development for major corporate clients.

In the year 2000, Dean was awarded the National Medal of Technology. Presented by President Clinton, this award was in recognition for inventions that have advanced medical care worldwide, and for innovative and imaginative leadership in awakening America to the excitement of science and technology. He was also awarded the Lemelson-MIT Prize in 2002 and was inducted into the National Inventors Hall of Fame in May 2005. In addition to DEKA, one of Dean's proudest accomplishments is founding FIRST (For Inspiration and Recognition of Science and Technology), an organisation dedicated to motivating the next generation to understand, use and enjoy science and technology.

After our tour, we'll have dinner and then the evening is free for some fun!

Day 5
Breakfast

Good morning Boston! After breakfast at our hotel we'll depart for a superb visit to the University of Mass Lowell Robotics Lab where we will see how robots are being designed to make life easier for all of us in the future!

University of Massachusetts Lowell: Robotics Lab – At this facility you will see how the science of Robotics is being integrated into the work force. The Robotics Lab was founded by Dr. Holly Yanco in 2001. Research focuses on human-robot interaction (HRI), ranging from visual displays to evaluation methods to a new HRI architecture for robots. Application domains include assistive technology, urban search and rescue (USAR), explosive ordinance disposal (EOD), and hazardous materials (HAZMAT) response.
http://robotics.cs.uml.edu/robots

In the afternoon we will take an exciting turn from robotics to genetics!

DNAtrium: The Broad Institute of MIT & Harvard – is dedicated to the exploration of the human genome, our genetic instruction book. Through unique exhibits, the DNAtrium showcases how genomic science is propelling progress in biology and medicine. Students will hear from scientists about their ground-breaking work at the Broad Institute, peer into the laboratory machines that yield torrents of biological information and connect with recent discoveries in genomic science from around the world.
www.broadinstitute.org



The Broad Institute of MIT and Harvard was launched in 2004 with the visionary philanthropic investment of Eli and Edythe Broad, who joined with leaders at Harvard and its affiliated hospitals, MIT, and the Whitehead Institute to pioneer a "new model" of collaborative science that would transform medicine.

A unique scientific community of diverse talents but singular purpose, the Broad Institute brings together world-class faculty, professional staff, and students from throughout the MIT and Harvard communities and beyond, empowering them to work together to identify and overcome the most critical obstacles to realising the full promise of genomic medicine.

The Broad Institute is organised around scientific programs and platforms, bringing together biology and technology-focused scientists to jointly build, apply, and share with scientists worldwide the cutting-edge tools and knowledge needed to revolutionise medical knowledge and practice.



During our visit, we will explore multiple areas:

Genome Sequencing
Genetic Analysis
Chemical Biology

In these exhibits, Broad scientists describe today's powerful genomic technologies and how they are being used to transform genomic science and medicine.

To prepare for your visit, we suggest reviewing the following video clips with your students:

Sequencing DNA: Decoding or sequencing DNA, whether it's from a human or a tiny microbe, is a crucial step in many genomic studies. Chad Nusbaum explains how a DNA sequencing machine, one of the Broad's workhorses, can read the order of As, Ts, Cs, and Gs in a sample of genetic material. He also reveals how new sequencing technologies could revolutionise the way future genomic studies are done.
http://www.broadinstitute.org/files/shared/dnatrium/scienceinaction/films/gs1.html

Combating Drug-resistant Malaria: Malaria is a huge public health problem around the globe, made worse by the emergence of drug-resistant forms of the parasite that causes the disease. Dyann Wirth and Pardis Sabeti discuss how genome sequencing enables researchers to identify mutations conferring drug resistance, and how this knowledge can help public health officials in at-risk regions make informed treatment decisions and help slow the spread of resistant disease.
http://www.broadinstitute.org/files/shared/dnatrium/scienceinaction/films/gs2.html

The Connectivity Map: Different genes get turned on (or "expressed") in diseased cells compared to healthy ones. The same thing is true of cells that are exposed to a particular drug versus those that are not. From these core principles, Broad researchers have developed the Connectivity Map, a tool that promises to accelerate and improve the way drugs are discovered. Justin Lamb and Todd Golub explain how genetic technologies like DNA chips make this work possible.
http://www.broadinstitute.org/files/shared/dnatrium/scienceinaction/films/ga2.html



When students come for a class visit to the Broad Institute, there are five main categories of activities in which they can participate, listed below. When a teacher plans a class visit, the Broad Institute staff will work together with you to decide which one, two, or three of these activities to do. The selection will be based on length of visit, number of students, and curriculum goals.

1. Lab-based activities:

- ✓ Extracting genomic DNA
- ✓ Chemical biology: discovering a compound of interest
- ✓ Using genotyping to solve a baby identity mix-up
- ✓ Transformation of plasmid DNA into bacteria
- ✓ PCR and gel electrophoresis
- ✓ The DNA sequencing reaction
- ✓ Classifying bacteria by appearance versus DNA sequence
- ✓ An introduction to model organisms
- ✓ An introduction to *C. elegans (*roundworm*)* genetics
- ✓ Basic microbiology techniques
- ✓ Purifying plasmid DNA from bacteria
- ✓ Pipetting Olympics
- ✓ Classification of animals by appearance versus genome sequence
- ✓ Types of mutations in DNA and protein sequences
- ✓ Antibiotic resistance
- ✓ Separating proteins by size

2. Computer-based activities:

- ✓ Using database searches to analyse DNA and protein sequences
- ✓ A protein viewer program to look at 3D structures of DNA and proteins
- ✓ On-line programs to investigate function and conservation of sequences
- ✓ Software to analyse microarray data and help diagnose cancers

3. Group discussions:

- ✓ Scientist/student interaction sessions
- ✓ Careers in biology
- ✓ Bioethical issues

4. Paper-based activities:

- ✓ Karyotyping: Analysing the chromosomes of normal and cancer cells
- ✓ Making phylogenetic trees using physical characteristics and DNA sequences
- ✓ Analysing cellular characteristics by imaging to identify new cancer genes
- ✓ How microarrays work and could be used to diagnose cancer
- ✓ Population Genetics: Hardy-Weinberg Equilibrium
- ✓ DNA replication, transcription, and splicing
- ✓ Transcription and translation – deciphering the code
- ✓ Restriction enzyme digests
- ✓ Identifying a sequence change that causes a human disease
- ✓ How DNA is organised into chromatin

5. Tours of the Institute:

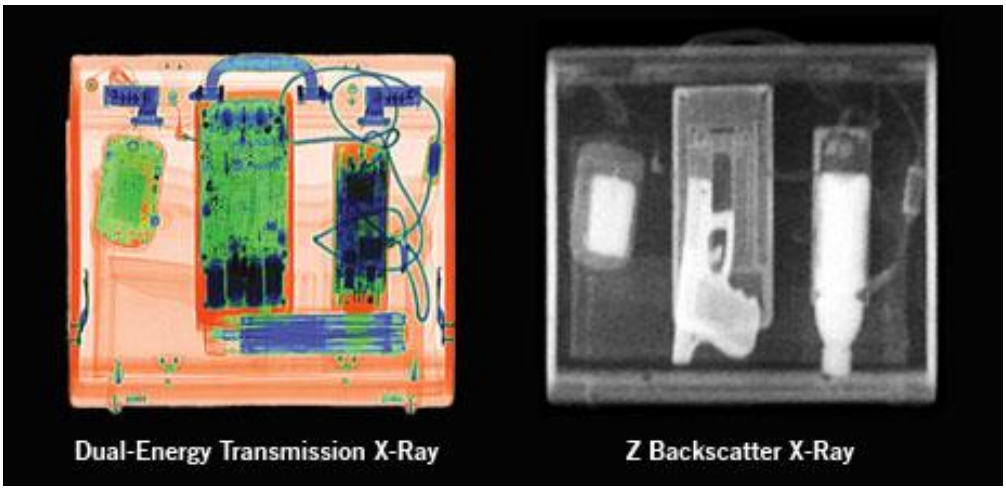
- ✓ Tours of the Chemical Biology, Genetic Analysis, and Cancer labs
- ✓ Tours of the Genome Sequencing Centre
- ✓ Visits with the interactive exhibits in the Broad Museum

After our full day of learning, we'll head back to our hotel for dinner and some relaxation!

Day 6
Breakfast

Rise & shine Boston! After breakfast in our hotel we will formally check-out and then load our luggage for later in the day. Afterwards, we're off to American Scientific & Engineering, Inc.

American Scientific & Engineering, Inc - AS&E X-ray inspection systems are used by governments and corporations around the world to combat terrorism, drug and weapons smuggling, illegal immigration, and trade fraud. AS&E specialises in detection technologies that can uncover dangerous and elusive threats, including explosives, plastic and metal weapons, and radioactive devices, such as dirty bombs and nuclear WMD (Weapons of Mass Destruction). AS&E systems also detect commonly smuggled goods, such as drugs and alcohol. These X-ray systems are deployed worldwide at ports and borders, and military and high-threat facilities. http://www.as-e.com



AS&E's signature technology — Z-Backscatter - gives its systems unparalleled detection capabilities, making it the technology of choice when the highest levels of security are required. The elite client base includes the U.S. Department of Homeland Security (including U.S. Customs and Border Protection) and the U.S. Department of Defense, among numerous other federal agencies. International customers include Her Majesty's Customs & Excise (UK), Hong Kong Customs, the Royal Thai Police (Thailand), New Zealand Customs and the Port of Sokhna (Egypt).

While at AS&E, we will see and learn about the full-body scanners coming into use at the airports and see what the scanners at airport security see.

After our final day of learning, we'll start to say goodbye to this wonderful city! We will wave to our new friends as we leave for the airport and hopefully, take away memories that will last a lifetime!



BOSTON STEM

Minimum Booking Numbers:	20 students
What's Included:	Roundtrip flights or coach transfers 5-nights' accommodation Breakfasts & dinners daily Airport transfers and transportation to activities listed iRobot Excursion & Master Class MIT Museum & Technology Master Class Boston's Museum of Science Master Class Series Design Camp Master Class, Projects & Materials DEKA Research Tour & Master Class Uni of Massachusetts Lowell Robotics Lab Master Class DNAtrium Master Class (Broad Institute: Harvard & MIT) American Science & Engineering Visit & Master Class Dedicated Visions Ambassador 24-hour emergency cover
What's Not Included:	Fully comprehensive insurance (mandatory) Transfers to/from home airport Transportation for activities not shown in the itinerary Lunches in resort Cost of visas, full or collective passports Cost of inoculations or medication required for travel Sightseeing / Entertainment Options not shown in Itinerary Hotel incidental deposits & bills – meals, mini-bar items, recreation, purchases billed to room, etc Any gratuities – coach drivers, maid / bellman services, area guides, tour ambassador

---

As always, our staff are always available to you to answer any questions you may have regarding programming. If we may serve you in any way, please do not hesitate to contact us.

United Kingdom: info@visionsineducation.co.uk / 01444 810399
The Americas: info@visions-in-education.com / 417.231.4892